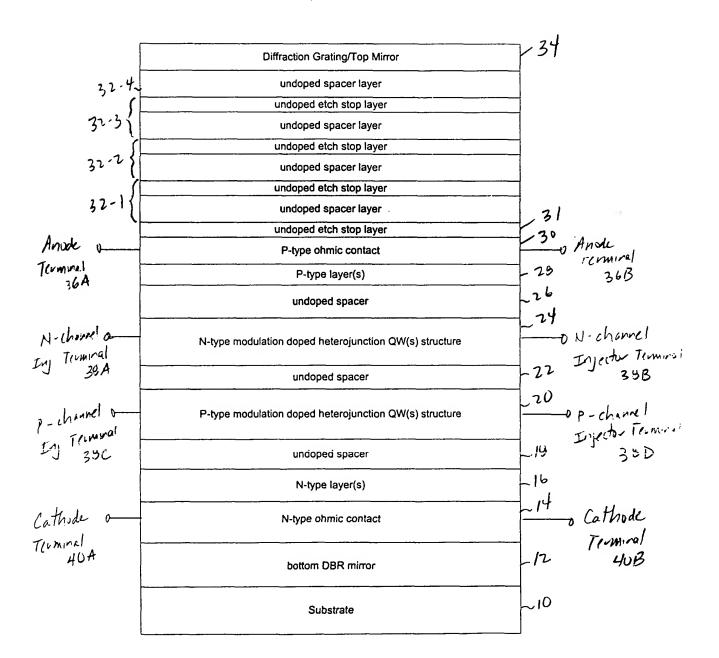


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928 1	326 × 28	124 × 27	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	* * * * * * * * * * * * * * * * * * *	\$ 1. 55 × 57 × 57 × 57 × 57 × 57 × 57 × 57	\$2.50 A	<	<	**************************************
	Undopel Spore Loyer 32a	Undoput Space Layer 32a	Undoped Spear Layer 32a	Undopd Spur Layer 32c	Undoped. Spier Layer 320.	Undoped Speer Layor 32a	Undoped Spacer Layer 32a	Layns 14 - 28	Bothon DBR Minor CZ Swarmfu 10
Ψ,	32.7	32-6	32.5	34.42	32-28	32-28	32-1	302	

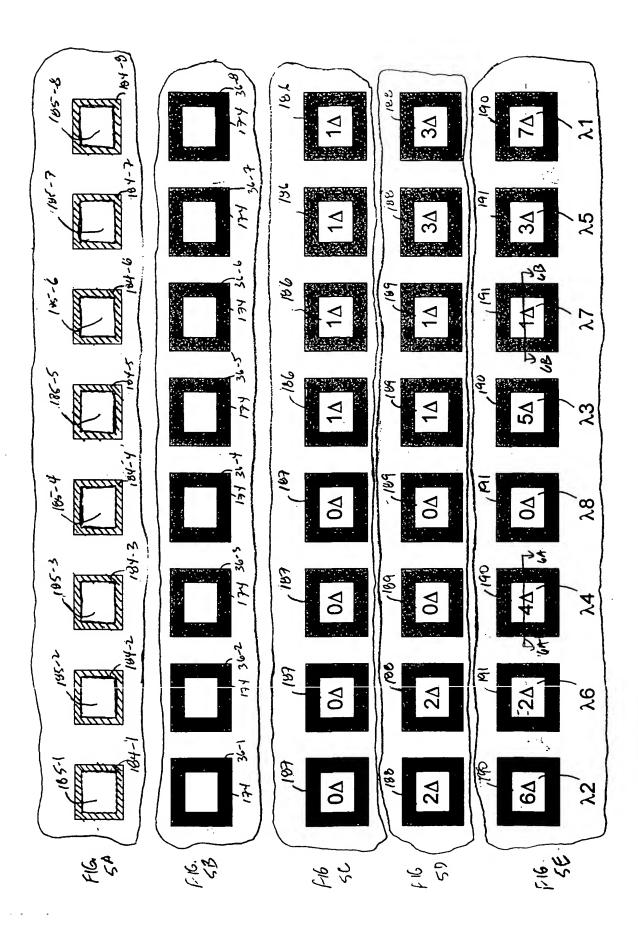


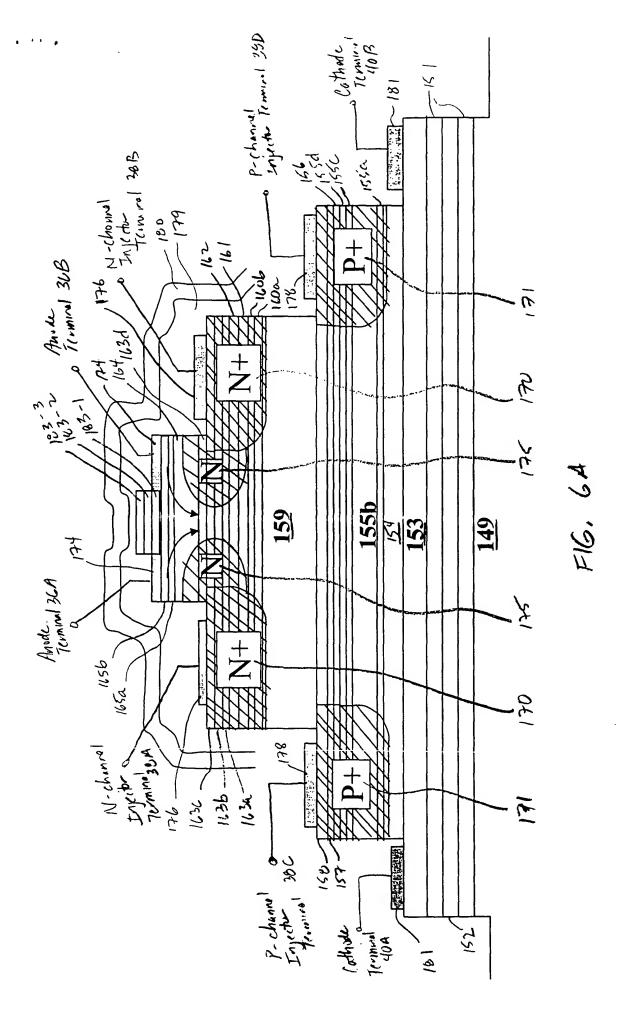
1	Differentian trading / Top Mine				
32.7~	undoped spacer layer				
, (undoped etch stop layer				
32-6	undoped spacer layer				
	undoped etch stop layer				
み とこう {	undoped spacer layer				
	undoped etch stop layer				
32-4	undoped spacer layer				
32.3	undoped etch stop layer				
	undoped spacer layer				
22.16	undoped etch stop layer				
32-2	undoped spacer layer				
32-1	undoped etch stop layer				
32-1	undoped spacer layer				
, ,	undoped etch stop layer				
Anode 0	P-type ohmic contact	O Tennal			
Anode O Turnival 36 A	P-type layer(s)	-20 36B			
J.	undoped spacer	~ 26			
N-chourel o	N-type modulation doped heterojunction QW(s) structure	172- 38B			
Trumpaga 1	undoped spacer	-22 303			
N-chouse o Injector 38A P-chance o Injector 38A Injector 38C	P-type modulation doped heterojunction QW(s) structure	Injecto Terminal			
The Ichming 200	undoped spacer	-18 DJC 35D			
	N-type layer(s)	طا			
Cathodi Temmal 40A	N-type ohmic contact	14 Terrinal 40B			
Temmal	bottom DBR mirror	\IZ			
	Substrate	~10			
•					

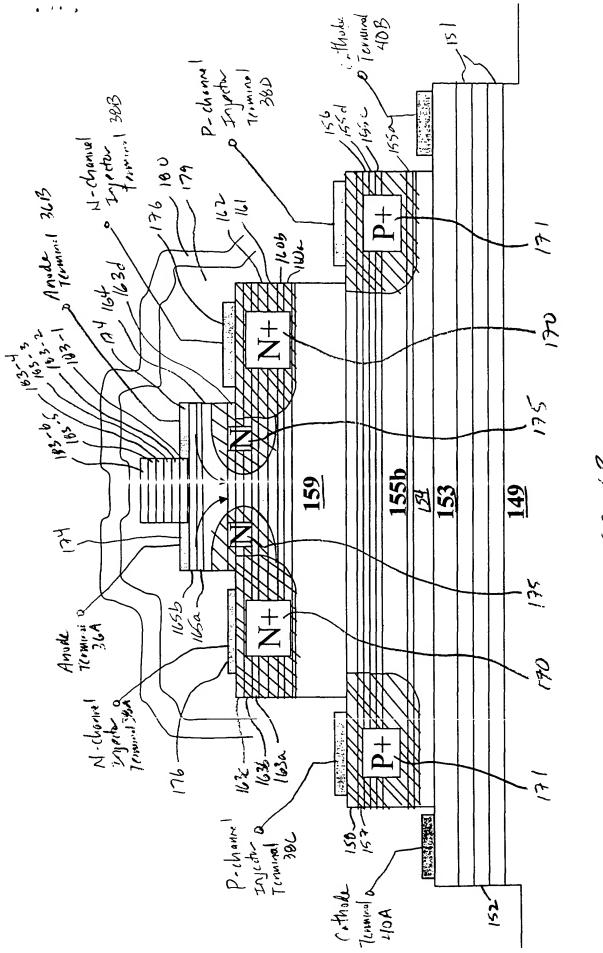
		Layer	Typical Doping Concentration	Tunical Lavas	
	Layer Material	Doping Type	(atoms/cm ³)	Typical Layer Thickness (A)	Layer#
		7,50	(0.00.00.00.7_		20,0. //
32 {	AlAs)	und	und		183b
· ·	GaAs X7	und	und		183a
31 {	AlAs	und	und	40-100	182
2.	InGaAs	P+	1E20	25	165b
30 (GaAs	P+	1E20	75	165a
-0	AI(0.7)Ga(0.3)As	Р	1E17	700	164b
28 }	Al(0.7)Ga(0.3)As	P+	1E19	10	164a
Ŋ	AI(.15)Ga(.85)As	P+	3.5E18	25	163d
26 3	AI(.15)Ga(.85)As	und	und	200 - 300	163c
	Al(.15)Ga(.85)As	N+	3.5E18	80	163b
}	AI(.15)Ga(.85)As	und	und	20-30	163a
245	GaAs	und	und	15	162
-)	In(.20)Ga(.80)AsN)	und	und	60	161
	GaAs 3/3	und	und	100	160b
,	GaAs	und	und	100 - 250	160a
22 {	AI(.15)Ga(.85)As	und	und	5000	159
	GaAs	und	und	100	158
)	In(.20)Ga(.80)AsN	und	und	60	157
20 5	GaAs	und	und	15	156
[]	AI(.15)Ga(.85)As	und	und	30	155d
/	AI(.15)Ga(.85)As	P+	3.5E18	80	155c
18 1	AI(.15)Ga(.85)As	und	und	300	155b
16 {	Al(.15)Ga(.85)As	N+	3.5E18	80	155a
	Al(0.7)Ga(0.3)As	N	1E17	700	154
14 (GaAs	N+	3.5E18	2200	153
\int	AlAs	und	und	1701	151
12 5	GaAs } x 7	und	und	696	152
()	AlAs	und	und	1701	151
10 {	GaAs Substrate		SI		149

F16.3

define alignment marks perform implants of n-type ions through implant masks 184-1 ... 184-8 to form N implants 175 6 13ر pattern and etch down to p-type ohmic contact layer 165 to form mesas at the p-type ohmic contact layer 165 that surround active regions 185-1 ... 185-8 BS deposit/pattern metal layer 174 on the mesas to form the anode terminal electrodes 36-1 ... 36-8 of the array of thyristor laser devices deposit/pattern a mask that exposes a first set of active regions 186 and B10 protects the other active regions 187; perform first substractive epitaxial etching operations on the exposed active regions to remove one period of the original seven period expitaxial structure (periods of layers 183a/183b) ~B12 deposit/pattern a mask that exposes a second set of active regions 188 and protects the other active regions 189; perform second substractive epitaxial etching operations on the exposed active regions to remove two periods of the original seven period expitaxial structure (periods of layers 183a/183b) BIT deposit/pattern a mask that exposes a third set of active regions 190 and protects the other active regions 191; perform third substractive epitaxial etching operations on the exposed active regions to remove four periods of the original seven period expitaxial structure (periods of layers 183a/183b) pattern and etch down to near layer 163c, and perform implant of n-type ions to -1316 form N+ implants 170 pattern and etch down to near bottom of layer 159, and perform implant of p-~1313 type ions to form P+ implants 171







F16. 6B

